



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/591,539

11/15/2007

Takahiko Yoshida

2691-000055/US

2989

30593

7590

09/11/2008

HARNESS, DICKEY & PIERCE, P.L.C.

P.O. BOX 8910

RESTON, VA 20195

EXAMINER

GALT, CASSI J

ART UNIT

PAPER NUMBER

3662

MAIL DATE

DELIVERY MODE

09/11/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/591,539	Applicant(s) YOSHIDA ET AL.	
	Examiner CASSI GALT	Art Unit 3662	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 and 12-20 is/are pending in the application.
4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-10 and 12-20 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 September 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>9/1/2006, 4/30/2007</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statements (IDS) submitted on 9/1/2006 and 4/30/2007 are being considered by the examiner.

Claim Objections

2. Claims 3 and 15 objected to because of the following informalities:

Regarding lines 4-5 of claim 3 and lines 3-4 of claim 15, the phrase "a side from which electromagnetic waves income" is unclear and may be more clearly written "a side from which electromagnetic waves *are incoming*" or "a side from which electromagnetic waves *are incident*".

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-10 and 12-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Amano ("Investigation on the Matching Characteristics of EM-Wave Absorber Mounted Conductive Patterns") in view of Matsuo (JP 11-204984).

Regarding claim 1, Amano teaches an electromagnetic wave absorber comprising: element receiving means provided with a plurality of conductor elements

Art Unit: 3662

("Conductive Patterns" Fig. 2) having predetermined resonant frequencies (ab. lines 3-5) and including a plurality of types of conductor elements (cross and square shapes, Figs. 1 and 2), the plurality of conductor elements being arranged spaced away from each other in a direction intersecting an incoming direction of electromagnetic waves (see Fig. 2, esp. "Incident Wave"), and being substantially polygonal (see Figs. 1 and 2), and a loss material ("Lossy Material", Fig. 2) provided close to the element receiving means.

Amano does not teach that the plurality of conductor elements have at least one corner portion having an arc shape. However, electromagnetic wave absorber conductor elements having arc shaped corners are well known. For example, Matsuo teaches an electromagnetic wave absorber using conductor elements having arc shaped corners (Figs. 4 and 8). Matsuo teaches that the arc shaped corners of Figs. 4 and 8 result in different absorption properties than the square corners of Fig. 3 (see Tables 1-5). It would have been obvious to modify Amano by shaping the corner portions of the conductor elements in an arc shape in order to attain different absorption properties.

Regarding claim 2, Amano teaches that the conductor elements are arranged in layers (l_1 , l_2 , Fig. 1, and l_1 , l_2 , l_3 , l_4 , l_5 , Fig. 2) in the incoming direction of electromagnetic waves ("Incident Wave", Fig. 2).

Regarding claims 3 and 15, Amano teaches an electromagnetic wave reflecting means ("Conductive Plate", Fig. 2) disposed on a side opposite to a side from which electromagnetic waves are incident.

Regarding claims 4-7, 10, 12-14, 16, and 18-20, the claims features are well known. It would have been obvious to further modify Amano with said features because they are merely what one would expect to find in an electromagnetic wave absorber.

Regarding claims 8 and 17, Amano teaches that conductor elements are shaped like crosses and quadrangles (Fig. 1 Case III and IV), that the cross and quadrangular conductor elements are arranged in a direction intersecting the incoming direction of electromagnetic waves (see Fig. 2, esp. "Incident Wave"), that the cross conductor elements are arranged in a regular manner (see Fig. 1 Case III and IV), and that the quadrangular conductor elements are arranged so as to fill in the areas surrounded by the cross conductor elements (Fig. 1 Case III and IV shows that portions of the quadrangular shaped elements fill the areas surrounded by the cross conductor elements).

Regarding claim 9, Amano's Fig. 1 Case III and IV shows that cross conductor elements are arranged such that radially extending portions are faced with each other, and that the quadrangular elements are square shaped, as are the areas surrounded by the cross conductor elements.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CASSI GALT whose telephone number is (571)270-1469. The examiner can normally be reached on Mon-Fri 7:30AM-5:00PM, Alt. Fri, Eastern Time.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Tarcza can be reached on 571-272-6979. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 3662

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

9/4/2008

CASSI GALT

Examiner, Art Unit 3662

/Thomas H. Tarcza/

Supervisory Patent Examiner, Art Unit 3662